

Fig. 1 [Prior Art]

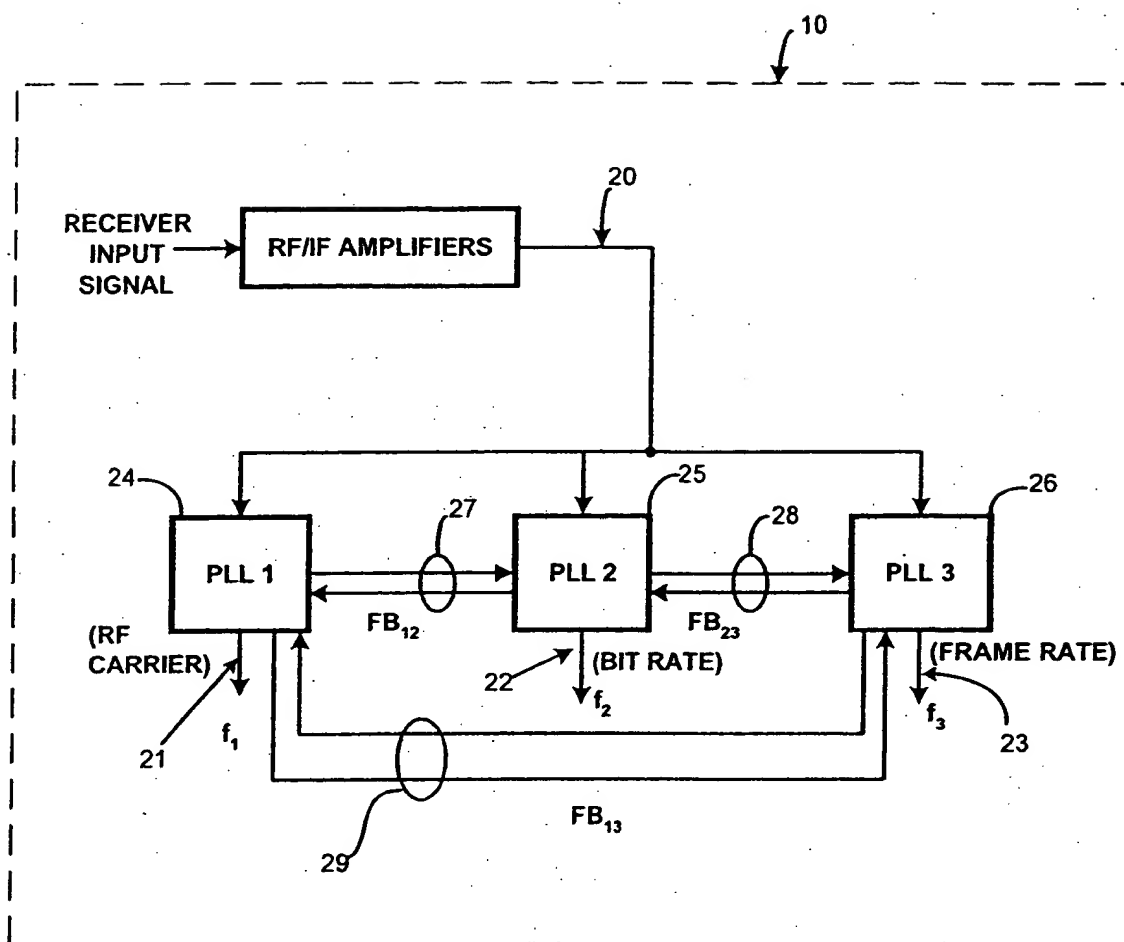
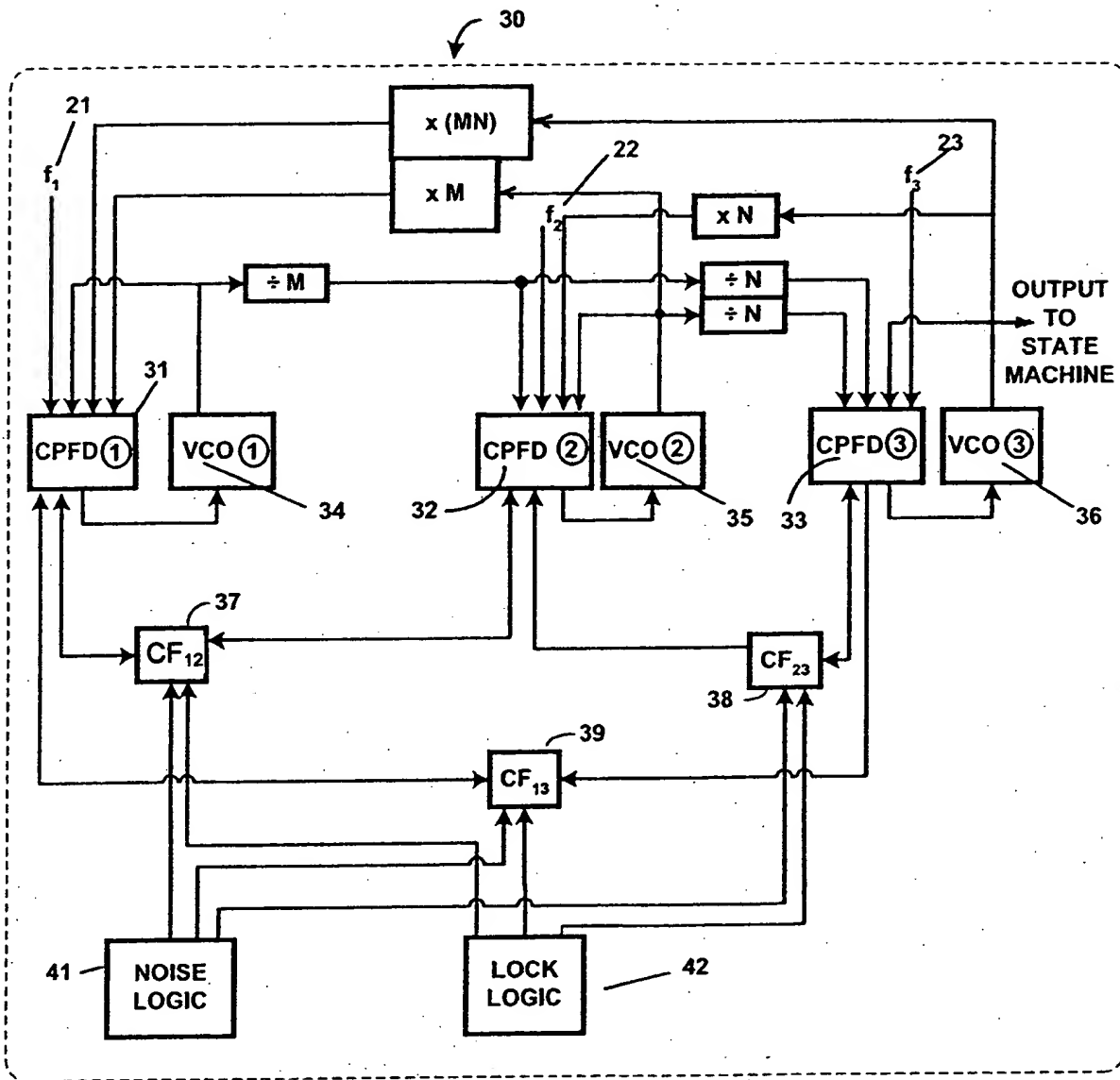
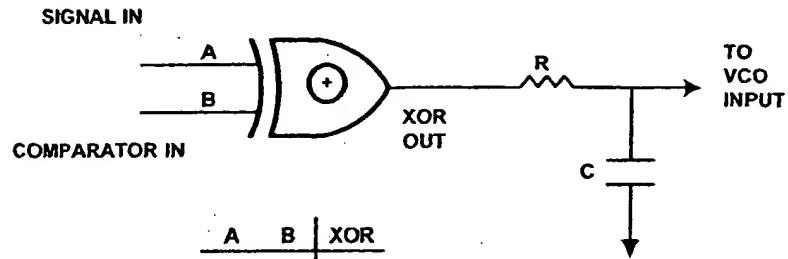
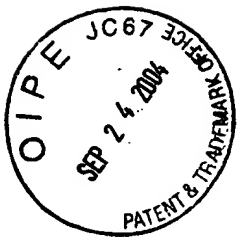


Fig. 2

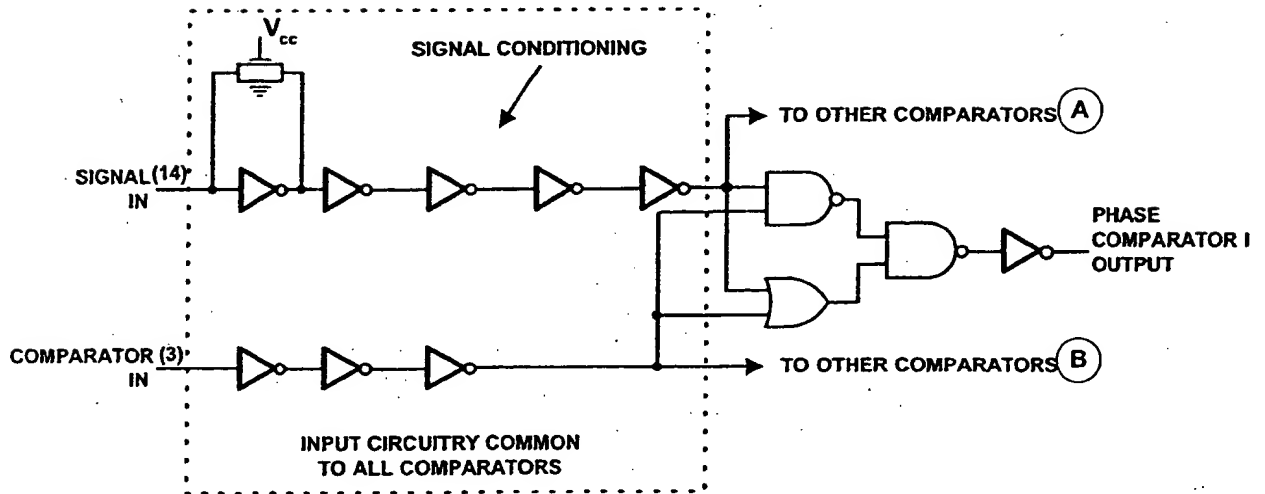


**Fig. 3**

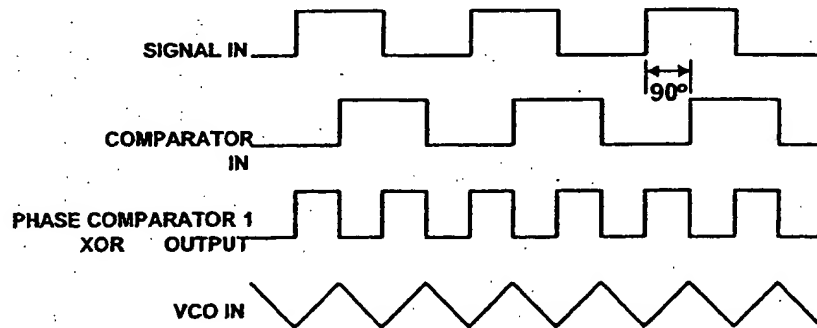


A	B	XOR
0	0	0
0	1	1
1	0	1
1	1	0

(A) BASIC XOR PHASE COMPARATOR

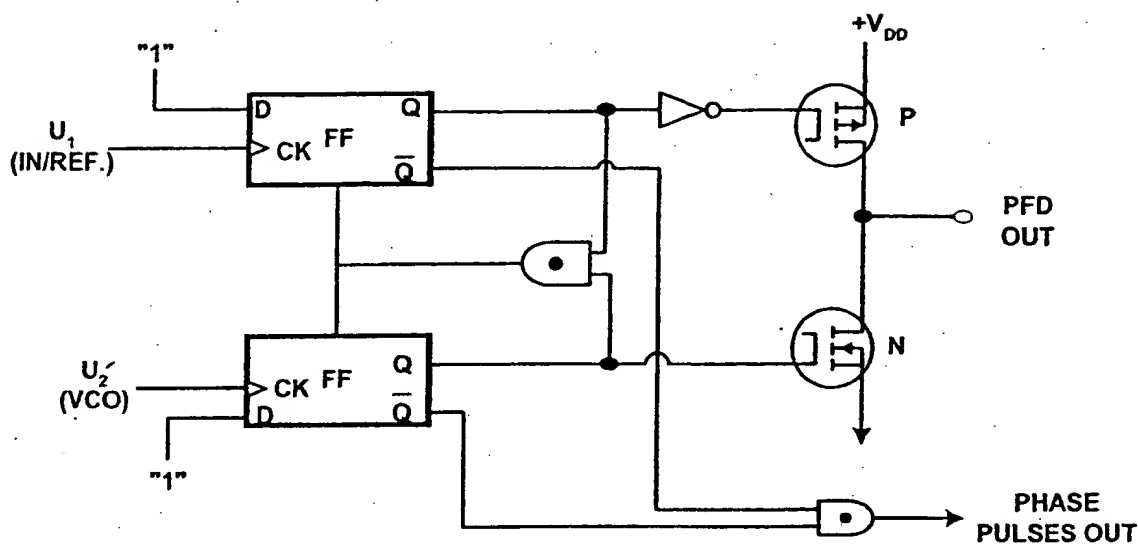


(B) DETAILED ON-CHIP IC CIRCUITRY IN 74HC4046

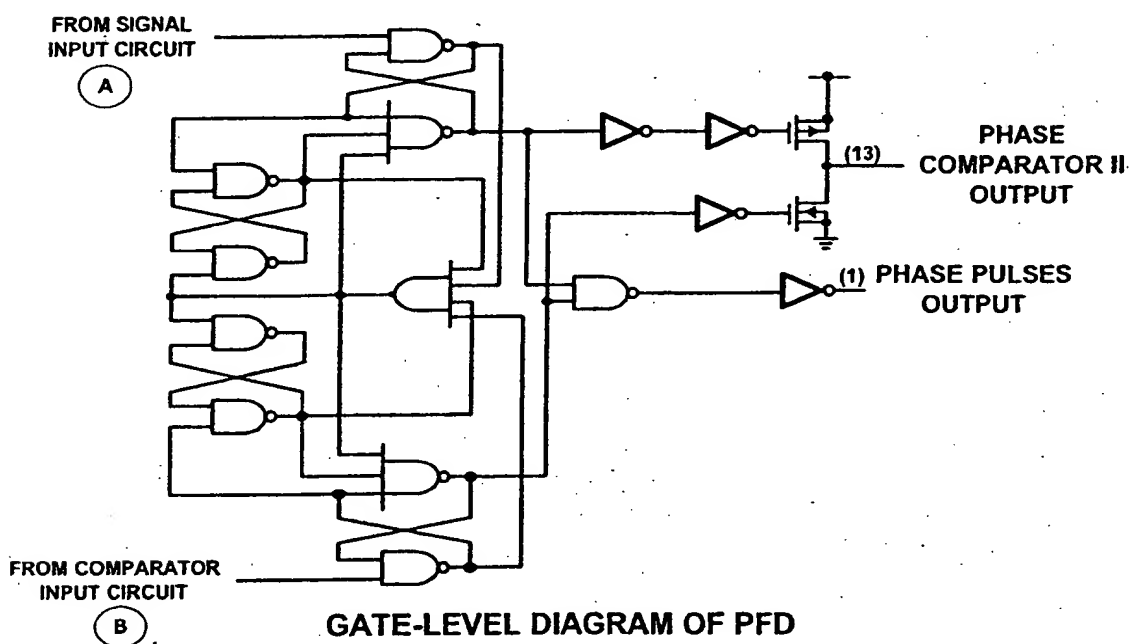


(C) TYPICAL XOR DETECTOR WAVEFORMS

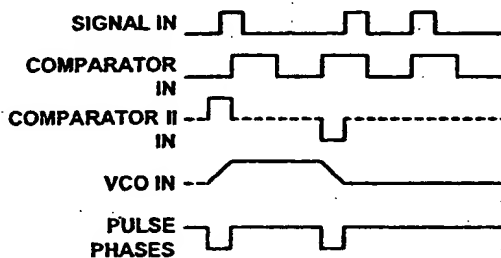
Fig. 4 (Prior Art)



HIGH-LEVEL DIAGRAM OF PFD (existing art)



GATE-LEVEL DIAGRAM OF PFD



TIMING AND WAVEFORMS OF PFD (existing art)

Fig. 4 cont. (Prior Art)

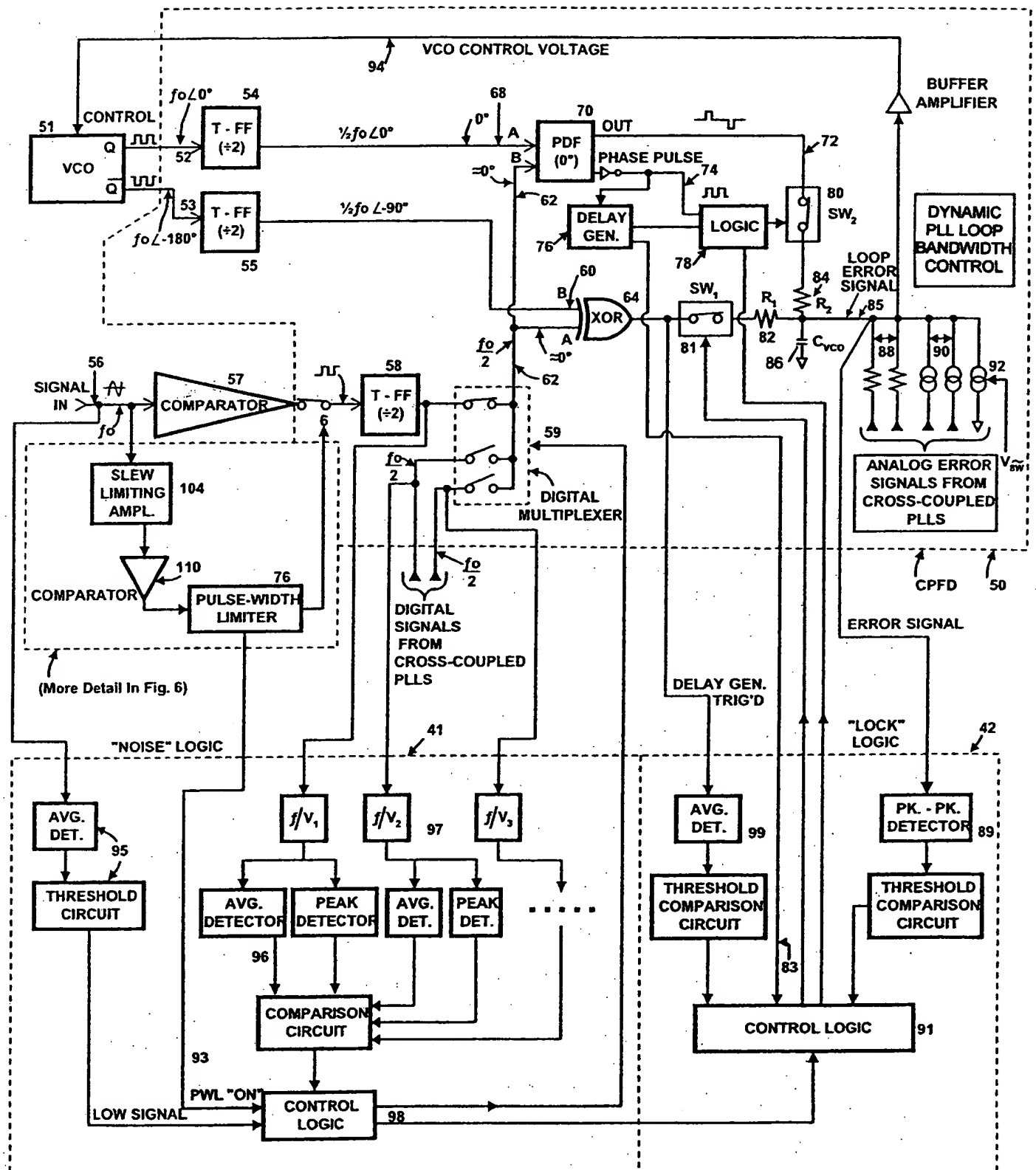


Fig. 5

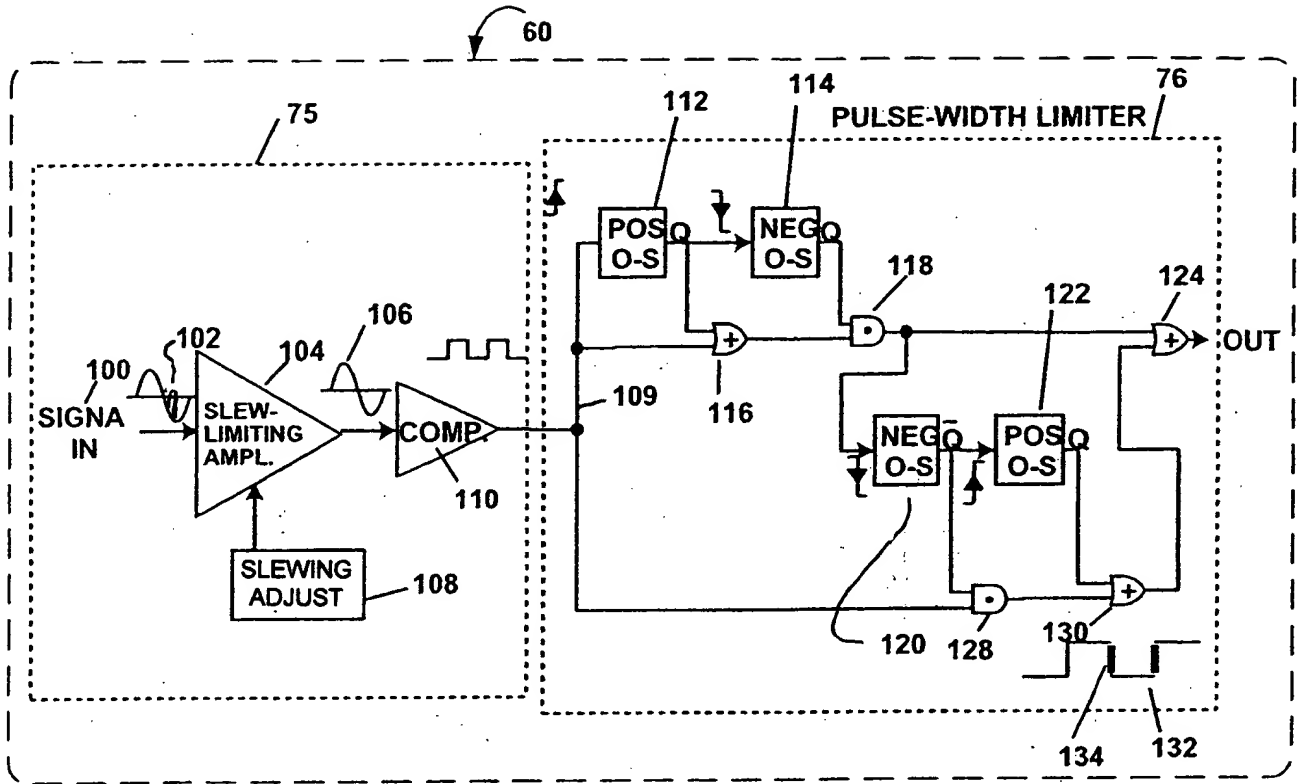


Fig. 6

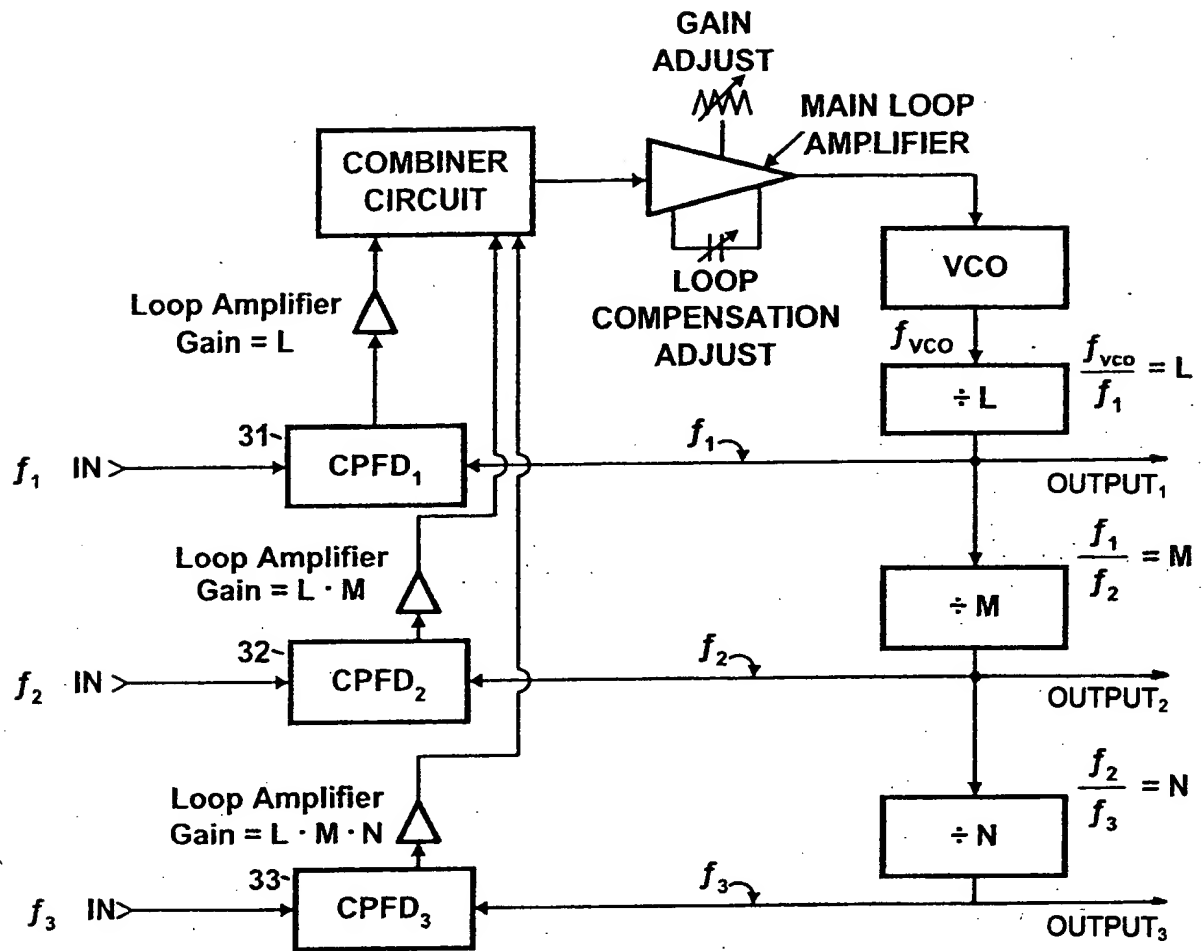


Fig. 7